

Cleveland County Natural Areas Inventory

WEST SHELBY MESIC SLOPE Significant Natural Heritage Area

Site Significance: County
Quadrangle: Shelby

Size: 1 acre
Ownership: Private

SIGNIFICANT FEATURES: The significance of the site is primarily for its small population of the State and Federally Threatened dwarf-flowered heartleaf (*Hexastylis naniflora*). A very small example of Mesic Mixed Hardwood Forest is also present.

LANDSCAPE RELATIONSHIPS: The site is situated in a rapidly urbanizing area at the edge of the City of Shelby and is ecologically isolated. Adjacent areas on the north have been cleared for development. The size of the site and its heartleaf population and the degree of fragmentation in the surrounding landscape probably limit the viability of this site.

SITE DESCRIPTION: West Shelby Mesic Slope is located on the east side of the First Broad River at the edge of Shelby. Residential areas lie to the south and east. Disturbed forests and clearings exist to the west. The site consists of a small, north-facing slope with a mature hardwood forest. An intermittent tributary of the First Broad River flows at the base of the slope. The small population of rare dwarf-flowered heartleaf (*Hexastylis naniflora*), first documented in 1997, remains vigorous but may be reduced in size by activities on adjacent lands. The heartleaf population is part of a small but mature example of Mesic Mixed Hardwood Forest on moist, fairly rich soils. The forests' canopy is dominated by American beech (*Fagus grandifolia*) and red oak (*Quercus rubra*), with substantial yellow poplar (*Liriodendron tulipifera*) and white oak (*Quercus alba*). Its diverse understory includes American hornbeam (*Carpinus caroliniana*), box elder (*Acer negundo*), flowering dogwood (*Cornus florida*), river birch (*Betula nigra*), black gum (*Nyssa sylvatica*), sourwood (*Oxydendrum arboreum*), and others. The shrub layer is sparse, with occasional hearts-a-bustin' (*Euonymus americanus*), non-native Chinese privet (*Ligustrum chinense*), witch-hazel (*Hamamelis virginiana*), and sweet-shrub (*Calycanthus floridus*). The moderately dense herb layer supports Christmas fern (*Polystichum acrostichoides*), round-lobed hepatica (*Hepatica americana*), orange jewelweed (*Impatiens capensis*), false nettle (*Boehmeria cylindrica*), false Solomon's-seal (*Maianthemum racemosum*), foamflower (*Tiarella cordifolia*), pipsissewa (*Chimaphila maculata*), black cohosh (*Cimicifuga racemosa*), and the rare dwarf-flowered heartleaf (*Hexastylis naniflora*). The non-native Japanese grass (*Microstegium vimineum*) is also fairly frequent. Vines such as poison ivy (*Toxicodendron radicans*) and cross-vine (*Anisostichus capreolata*) are occasional.

MANAGEMENT AND PROTECTION: Although no recent sign of disturbance is evident, the site is encroached upon by several houses situated at the top of the slope. Lands that buffer the site on the north, which may have formerly supported dwarf-flowered heartleaf, have been cleared for development. Although this site may persist indefinitely, its extremely small size makes it difficult to protect against off-site influences. The small size of the dwarf-flowered heartleaf population at this site may affect its long-term genetic viability. Invasive non-native species such as Japanese honeysuckle (*Lonicera japonica*), Japanese grass (*Microstegium vimineum*), and Chinese privet (*Ligustrum sinense*) are abundant in stream corridor above and below the site. Disturbance of the forest canopy in this site would probably lead to rapid invasion by these non-native plants.